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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,545	04/15/2004	Ching-Ping Tseng	LELI 3513	8845

321 7590 01/11/2008  
SENNIGER POWERS  
ONE METROPOLITAN SQUARE  
16TH FLOOR  
ST LOUIS, MO 63102

EXAMINER
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BEISNER, WILLIAM H

ART UNIT	PAPER NUMBER
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1797

NOTIFICATION DATE-	DELIVERY MODE
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01/11/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

## Office Action Summary

**Application No.**

10/825,545

**Applicant(s)**

TSENG ET AL.

**Examiner**

William H. Beisner

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 25-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, Claims 1-24 and 34, in the reply filed on 10/12/2007 is acknowledged.

2. Claims 25-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 10/12/2007.

### *Priority*

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al.(CA 2,035,512) in view of Suereth (DE 4102167).

The reference of Schmidt et al. discloses a waste gas treatment system (See Figure 1) that includes a directional gas flow device (2) having a valve, at least one gas inlet (1) and at least two gas outlets (See Figure 1) wherein the valve is adapted to control the waste gas to flow toward one of the at least two gas outlets (See page 6). The system includes a biological treatment system (3) including a top, a bottom and at least one biological reactor (24) wherein the top and bottom connect to the at least two gas outlets and microorganisms are capable of being immobilized on support material (24) (See page 8).

Claim 24 differs by reciting that the waste gas treatment system includes a dust/grease filter device connected to the at least one gas inlet.

The reference of Suereth discloses that it is well known in the biofilter art to provide the inlet stream with a dust filter (14).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the system of the primary reference with a dust filter device on the gas inlet for the known and predictable result of providing a means recognized in the art for filtering dust from a waste gas stream so as to prevent clogging of the biofilter media.

8. Claims 1-7, 10-18, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al.(CA 2,035,512) in view of Suereth (DE 4102167) taken further in view of Walker (US 4,421,534).

The combination of the references of Schmidt et al. and Suereth has been discussed above.

Claims 1 and 23 differ by reciting that the device further includes "a bioaerosol removal device connecting to the biological treatment system".

The reference of Walker discloses that it is known in the biofilter art to provide the exit stream of a biological treatment system (13) with a bioaerosol removal device (32,41).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the system of the modified primary reference with a removal device as suggested by the reference of Walker for the known and predictable result of treating the exit gas as is conventional in the art for removing the odor associated with the exit gas of a biological treatment system (See column 2, line 45, to column 3, line 15).

With respect to claims 2-4 and 35, in the absence of a showing of criticality and/or unexpected results, it would have been well within the purview of one having ordinary skill in the art to determine the optimum design of the dust filter based on considerations such as the source of the waste gas and economics while maintaining the required function of the filter to remove dust from the waste gas stream prior to introducing the gas into the biological treatment system.

With respect to claims 5-7, the reference of Schmidt discloses that valve (2) is electrically switchable. Additionally, while not preferred, it would have been obvious to one of ordinary skill in the art to manually operate the valve if required, for example, to override the system.

With respect to claims 10-15, the reference of Walker discloses that the removal device (32,41) includes liquid and particulate matter (See column 2, line 45, to column 3, line 15).

With respect to claims 16-18, the reference of Schmidt discloses the use of a synthetic polymer support material (24) which is capable of having microorganisms attached thereto by covalent bonding and/or adsorption.

With respect to claim 22, in the absence of a showing of criticality and/or unexpected results, it would have been obvious to one of ordinary skill in the art to determine the optimum placement of the ventilation fan within the system while maintaining the required gas flow through the treatment system.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al.(CA 2,035,512) in view of Suereth (DE 4102167) and Walker (US 4,421,534) taken further in view of Kato (JP 2-31816).

The combination of the references of Schmidt et al. and Suereth and Walker has been discussed above.

While the modified primary reference includes a device for treating the exit gas from the biological treatment system, the reference does not disclose the use of a thermal device.

The reference of Kato discloses that it is known in the art to employ a heat source (1) to deodorize and/or sterilize a gas stream (See the English language abstract).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the exit of the biological treatment system with a treatment device as suggested by the reference of Kato for the known and predictable result of providing a means recognized in the art for treating a gas stream so as to remove odor and/or microorganisms from the gas stream.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al.(CA 2,035,512) in view of Suereth (DE 4102167) and Walker (US 4,421,534) taken further in view of Kimura et al.(JP 2002-224207).

The combination of the references of Schmidt et al. and Suereth and Walker has been discussed above.

While the modified primary reference includes a device for treating the exit gas from the biological treatment system, the reference does not disclose the use of an UV device.

The reference of Kimura et al. discloses that it is known in the art to employ an UV source (4) to deodorize and/or sterilize a gas stream (See the English language abstract).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the exit of the biological treatment system with a treatment device as suggested by the

reference of Kimura et al. for the known and predicable result of providing a means recognized in the art for treating a gas stream so as to remove odor and/or microorganisms from the gas stream.

11. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al.(CA 2,035,512) in view of Suereth (DE 4102167) and Walker (US 4,421,534) taken further in view of Coleman (CA 2,186,202).

The combination of the references of Schmidt et al. and Suereth and Walker has been discussed above.

While the modified primary reference includes a biological treatment device that includes a microorganism support material, claims 19-21 differ by reciting the use of support material that includes encapsulation and/or crosslinking.

The reference of Coleman discloses that it is conventional in the art of biofiltration to employ to immobilize microorganisms on a support material using encapsulation and/or crosslinking (See page 4, line 13, to page 5, line 13).

In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the support material suggested by the reference of Coleman for the known and predicable result of providing an alternative means recognized in the art to achieve the same result, support of microorganisms within a biofiltration device.

### ***Conclusion***



12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys J. Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Beisner/  
Primary Examiner  
Art Unit 1797

WHB